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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,039	02/10/2003	Dave Hedley Morgan	4415.18USWO	8913
23552	7590	06/13/2005	EXAMINER	
MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903			BULLOCK, IN SUK C	
			ART UNIT	PAPER NUMBER
			1764	

DATE MAILED: 06/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/030,039	<b>Applicant(s)</b> MORGAN ET AL.	
	<b>Examiner</b> In Suk Bullock	<b>Art Unit</b> 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 April 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 50-77 is/are pending in the application.
- 4a) Of the above claim(s) 50-59 and 70-77 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 60-69 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☒ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in South Africa on 07/06/1999. It is noted, however, that applicant has not filed a certified copy of the 99/04377 application as required by 35 U.S.C. 119(b).

### ***Election/Restrictions***

Applicant's election without traverse of Group II, claims 60-69, in the reply filed on April 21, 2005 is acknowledged.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 60-62 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "one or more further conventional process steps" as recited in claim 60 is indefinite because it is unclear which of many chemical processes applicants wish to claim. The claim appears to be two step process for producing alkyl benzene: (1) metathesis of Fischer-Tropsch olefins and (2) reacting benzene with the metathesis products to produce alkyl benzene. Step two of the above process is not defined. Also, the specification shows only an alkylation process for producing alkyl benzene.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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Claims 60-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Slaugh et al (4,929,584) in view of Slaugh et al (4,925,822), Posthuma et al (5,486,542) and Miller et al (4,874,733).

The Slaugh '584 reference teaches alkylation of benzene with detergent range olefins, i.e., having carbon numbers ranging from about 8 to about 22, preferably from about 10 to about 20. See col. 2, lines 39-66.

The Slaugh '584 reference does not teach the metathesis reaction of hydrocarbons from Fischer-Tropsch process to obtain the desired olefins for use in the alkylation process. Slaugh '584 also does not teach the percentage of branched alkyl chain nor the specific composition of alkyl benzene as called for in claims 61-69.

The Slaugh '822 reference teaches olefin metathesis such as 1-hexene, 2-heptene, and 1-octene. The metathesis process is useful for converting a more plentiful hydrocarbon to a less plentiful and therefore more valuable hydrocarbon. One such example is to convert both higher and lower molecular weight olefins to olefins in the C-10 to C-16 range, a range of olefins especially suitable for the manufacture of detergents. See col. 1, lines 38-55 and col. 3, lines 12-29.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Slaugh '584 by utilizing olefin metathesis reaction to obtain desired detergent range olefins for use in alkylation with benzene because Slaugh '822 teaches that a more plentiful hydrocarbons can be converted to a less plentiful and therefore more valuable hydrocarbons by metathesis reaction.

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Slaugh '822 teaches a process of producing detergent range olefins through metathesis process and Slaugh '584 teaches employing these detergent range olefins in the alkylation of benzene. Thus, motivation to combine these references is considered proper.

It is recognized Slaugh '822 reference does not disclose the source of olefin feedstock for metathesis reaction as recited in applicants' claimed invention. Because the reference teaches a process that reads on that instantly claimed as well as the product comparable to that instantly claimed, one of ordinary skill in the art would reasonably expect no criticality in the source of olefins absent any evidence to the contrary.

The Posthuma and Miller references are cited to show Fisher-Tropsch process is well known for conversion of syngas to a wide range of hydrocarbons.

Slaugh '584 does not disclose applicants' claimed alkyl benzene composition and the percentage of branched alkyl chain. However, because Slaugh '584 teaches utilizing similar reactants, i.e., benzene and olefins having 10-20 carbon atoms per molecule, it is reasonably expected that the alkylation process of Slaugh '584 would yield instantly claimed alkyl benzene composition and instantly claimed percentage of branched alkyl chain absent any evidence to the contrary.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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U.S. Patents 3,261,879 and 3,365,513 are cited for their disclosure of olefin metathesis.

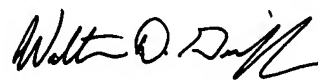
U.S. Patents 3,674,885 and 4,358,628 are cited for their disclosure of alkylation of benzene with detergent range olefins.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to In Suk Bullock whose telephone number is 571-272-5954. The examiner can normally be reached on Monday - Friday 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

I.B.

  
Walter D. Griffin  
Primary Examiner